Disparities in a Digitalising Islands and Sustainable Development

Introduction

We know from research at various scales that digital technologies may lead to economic growth and potentially disruptive innovations with strong spatial footprints and potential benefits for whole regions, even peripheral or rural areas.
The COVID-19 pandemic and the consequent lockdowns increased our dependency on digital technologies and drastically accelerated digitalisation in various domains, from selling products online to working from home and from creatively designing online services and products to building new business models and digital infrastructure.
The digital transition is a cornerstone of the NextGenerationEU, a recovery instrument to help repair the economic and social damage brought about by the coronavirus pandemic.
But what implications does digitisation have for sustainable development and the 2030 Agenda?
What implications does digitisation have for rural , peripheral areas and Islands?
The paper will analyse the factors that influence the ability of the Islands to react, and pro-act, to digitalisation in the path toward the sustainable development goals.
The focus will be on the ability of (local) entrepreneurship to reconcile spiritual traditions and the impact of technological innovations according to creative resilient models of sustainable development that allow them to reap the great benefits of a structural transformation of the territories without losing their distinctive and qualifying features. The focus will be also on innovative and sustainable solutions that can make innovation an engine of development that can enhance their traditions, making them a driving force for the development of their economic systems.
For this reason, it is now more crucial than ever, especially for Islands and peripheral or rural areas, monitoring sustainable development through indicators that keep track of the degree of achievement of different goals and to steer political and public debate towards a long-term vision in which digitalisation is a key factor.

Digitalisation in agenda 2030 goals

The digital revolution refers to the transformation of entire sectors of society through the production, distribution and consumption of digital data. This transformation is all about technologies including augmented and virtual reality, additive manufacturing or 3-D printing, artificial intelligence, the internet of things and blockchain. According to an estimate by the European Commission, the value of the data economy will grow from 2.4% in 2018 to 5.8% of EU GDP in 2025, totalling €829 billion. Furthermore, the number of professionals in the digital sector in Europe is expected to double by 2025 with 10.9 million experts compared to 5.7 in 2018. With these figures in hand, it seems impossible to ignore the role of digitisation as a crucial opportunity for the achievement of the SDGs and for a long-term sustainable paradigm. Due to its deep connection with all 17 SDGs, the digital revolution can indeed be considered the main tool to support a green transition on a global scale.

Among others, the contribution of digitalisation towards the achievement of Goal 3 of the 2030 Agenda aimed at promoting health and well-being for all is substantial. Digital innovation for the medical sector is now contributing to increasingly timely and accurate diagnoses. 3-D printing is evolving rapidly, enabling not only the production of personalised prostheses at ever lower costs but also the printing of tissues and organs. Robotic assistance during surgery ensures that delicate

operations can be performed with greater precision and less invasiveness. The evolution of telemedicine has the potential to reduce inequalities by facilitating access to modern healthcare even in the most remote parts of the world. In addition, recent developments in the global healthcare landscape have shown how telemedicine can also be used in emergency situations to provide remote healthcare during epidemics and stem their spread. For example, in Huanggang, one of the Chinese cities most affected by the coronavirus, a 5G-based telemedicine platform has recently been activated to facilitate remote consultations and medical examinations in order to facilitate more timely decisions and relieve pressure on scarce medical resources in the city.

Even more significant is the transformation brought about by the digitisation process in the urban sector to create sustainable cities and communities in line with Goal 11 of the 2030 Agenda. Support for self-driving vehicles will reduce urban traffic and improve mobility. Increasing investment in smart buildings using digital technologies will help optimise their overall energy use. Such buildings will increasingly be able to adapt to outdoor climatic conditions, use natural sunlight, regulate temperature and ventilation autonomously and without human intervention.

The digital revolution also has a clear role to play in achieving Goal 4 on access to quality education on a global scale. Through the spread of online courses, everyone in the world will be able to attend quality courses provided by the most prestigious institutions. Above all, e-learning will help reduce inequalities by promoting at least primary education for all. With the support of the necessary energy and connection infrastructure, it will be possible to guarantee education everywhere, even in the most underdeveloped and remote parts of the world where access to schools and quality education is still problematic.

The changes brought about by digitalisation in the world of work are also perceptible. Solutions such as smart-working and video-conferencing will minimise business travel and the emissions from the means of transport used in it. Technological and digital improvements will increase labour productivity in many sectors, leading to higher profits for companies, increased recruitment and higher wages. By automating a large part of their routines, workers will be able to enjoy more leisure time and significantly improve their work-life balance. However, the benefits of digitisation in the world of work need to be weighed against the risks if Goal 8 on decent work and economic growth is to be fully achieved. While jobs characterised by a substantial creative and emotional component such as teaching, acting or politics may be assisted by digital tools but never replaced by them, the same cannot be said for the so-called "low-skilled" occupations that will increasingly be replaced by automation. The decline in low-skilled jobs will therefore have to be carefully monitored and assisted through buffer policies that prevent the creation of pockets of unemployment especially in countries with economies heavily dependent on the primary sector. A clear example of this phenomenon is the labour force in the agricultural sector that is already heavily replaced by digital technologies. The increasing evolution of digital technologies within the agricultural supply chain represents substantial advantages in terms of competitiveness, productivity and efficiency of the sector.
These dynamics need to be constantly monitored to ensure that digitisation is a disruptive force and not a creator of social inequalities.

The European Commission, whose digital strategy combines innovation and foresight with a system of precise and firm safeguards for consumers and businesses, seems to be well aware of the need to weigh up the benefits and risks of technological change.

The cornerstone of the package announced by President Von der Leyen is a digital economy deeply centred on people. The Commission plans to invest heavily in the development and training of digital skills for all Europeans, including a digital education plan for digital literacy and skills development.

Thus, access to the Internet, its use and digital skills vary greatly according to generation, educational qualification or standard of living. For many of us, the Internet has evolved into an indispensable need, with connectivity becoming ever-more crucial to provide a wide range of digital services. This took on a new meaning with the COVID-19 pandemic. Since the emergence of COVID-19 international bandwidth usage has continued to grow. Yet still, almost half of the world's population remains unconnected.

Digitalisation and sustainable development in the Islands: effectiveness and efficiency indicators

The connectivity challenge remains especially severe for remote or isolated communities, far from the network infrastructure that has spread across all major continents.

The COVID-19 crisis had a strong impact on Islands, whose economies were already vulnerable due to their insularity and other permanent structural handicaps.

Mainly characterised by a physical 'disconnection' from the mainland, many of the challenges are the result of permanent conditions, such as dependence on sea and/or air transport, the consequent increase in prices, costs and lack of infrastructure.

The high concentration of the Islands' economic markets in the tertiary sectors has further affected these territories. Indeed, tourism has been one of the most fragile sectors and the increasing hyper-specialisation of tourism in the islands needs to be counterbalanced by the development of other activities in the primary and secondary sectors and other service activities, including those related to the digital sector.

This crisis comes on top of the Brexit, which has shaken Europe, particularly the Atlantic area, in many sectors, such as fishing. In addition, islands are more exposed and vulnerable to natural disasters, such as volcanic eruptions, forest fires and cyclones.

EU Islands are also at the forefront of climate change, in particular with rising waters and coastal erosion and warming and acidification of seas and oceans which pose huge risks to population centres and marine and terrestrial biodiversity.

The Islands of the European Union, although legally recognised as disadvantaged territories do not always benefit from the specific aid provided for in the treaties.

The European Union is first and foremost a maritime continent, whose islands are the source of considerable geographical, cultural, linguistic and environmental wealth.

EU policy should therefore take better account of these territories as part of a common policy for all European island territories, i.e. a better response to the challenges faced by the EU's islands, be they demographic, economic or environmental. Furthermore, the implementation of a European strategy for the islands and a review of the regional State aid regime would be desirable, in other words a Pact for the Islands that takes into account the specific characteristics of islands and their sea basins, in particular through better management and collection of statistical information .

This work therefore aims to develop a system of indicators that, based on demographic, economic and territorial data from Istat and Eurostat databases, can monitor the progress not only of the digitisation processes but also of the achievement of sustainable development objectives.

The results obtained in the different insulars contexts will then be compared and related to the good practices implemented in those contexts.